

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions and listings of claims in the application.

1. (Previously Presented) A package structure to be mounted on an external printed circuit board, said package structure comprising:

a package board that is mounted with an exoergic circuit element;

a heat sink that radiates heat from the exoergic circuit element;

a first pressure mechanism that applies a first pressure for operatively connecting the heat sink to the package board; and

a second pressure mechanism that applies a second pressure for operatively connecting the package board to the printed circuit board, said second pressure mechanism being separate from said first pressure mechanism and an application of the first pressure by said first pressure mechanism being independent of an application of the second pressure by said second pressure mechanism.

2. (Original) A package structure according to claim 1, wherein the first pressure is less than the second pressure.

3. (Withdrawn) A package structure according to claim 1, wherein the first pressure is set to be about one tenth to about one fifth as large as the second pressure.

4.(Original) A package structure according to claim 1, further comprising a socket, provided on said package board, which electrically connects said package structure to the printed circuit board.

5. (Previously Presented) A package structure according to claim 1, wherein said package board is made of resin.

6. (Currently Amended) A package structure to be mounted on an external printed circuit board, said package structure comprising:

a package board that is mounted with an exoergic circuit element;

a heat sink that radiates heat from the exoergic circuit element, wherein first pressure for connecting the heat sink to the package board is separated from second pressure for ~~connecting~~compressing the package board against the printed circuit board; and

a heat spreader that thermally connects the heat sink to the exoergic circuit element, and has a convex section.

7. (Original) A package structure according to claim 1, further comprising a heat spreader that thermally connects the heat sink to the exoergic circuit element, and is not connected with the package board.

8. (Original) A package structure according to claim 1, wherein said heat sink is connected to the exoergic circuit element.

9. (Previously Presented) A package structure to be mounted onto an external printed circuit board, said package structure comprising:

a package board that is mounted with an exoergic circuit element;

a heat sink that radiates heat from the exoergic circuit element;

a stiffener located between the heat sink and the package board around the exoergic circuit element;

a first pressure mechanism that applies a first pressure for operatively connecting one of the heat sink and the stiffener to the other; and

a second pressure mechanism that applies a second pressure for operatively connecting the stiffener to the printed circuit board, said second pressure mechanism being separate from said first pressure mechanism and an application of the first pressure by said first pressure mechanism being independent of an application of the second pressure by said second pressure mechanism.

10. (Original) A package structure according to claim 9, further comprising a socket, provided on the package board, which connects the package structure with the printed circuit board electrically.

11. (Original) A package structure according to claim 9, wherein the package board is made of resin.

12. (Original) A package structure according to claim 9, wherein the stiffener is larger than an external form of the package board.

13. (Withdrawn) A package structure according to claim 9, wherein the first and second pressure mechanisms include:

two kind of elastic elements; and

a coupling member that couples two kind of the elastic elements to each other.

14. (Withdrawn) A package structure according to claim 9, wherein pressure applied by the first pressure mechanism is smaller than that of the second pressure mechanism.

15. (Withdrawn) A package structure according to claim 9, wherein the stiffener covers a connection part between the package board and the printed circuit board.

16. (Withdrawn) A package structure according to claim 9, wherein the first pressure mechanism is fixed onto the stiffener.

17. (Previously Presented) A package structure to be mounted onto an external printed circuit board, said package structure comprising:

a package board that is mounted with an exoergic circuit element;

a heat sink that radiates heat from the exoergic circuit element;

a stiffener located between the heat sink and the package board around the exoergic circuit element;

a first pressure mechanism that presses one of the heat sink and the stiffener against the other;

a second pressure mechanism that compresses the stiffener against the printed circuit board; and

a heat spreader that thermally connects the heat sink with the exoergic circuit element, and has a convex section.

18. (Original) A package structure according to claim 9, further comprising a heat spreader that thermally connects the heat sink with the exoergic circuit element, and is not connected with the package board.

19. (Original) A package structure according to claim 9, wherein said heat sink is connected to the exoergic circuit element.

20. (Previously Presented) A package structure to be mounted onto an external printed circuit board, said package structure comprising:

a package board that is mounted with an exoergic circuit element;

a heat sink that radiates heat from the exoergic circuit element;

a stiffener located between the heat sink and the package board around the exoergic circuit element and adhered to the package board;

a first pressure mechanism that presses one of the heat sink and the stiffener against the other; and

a second pressure mechanism that compresses the stiffener against the printed circuit board.

21. (Withdrawn) A package structure according to claim 9, wherein said stiffener is made of stainless.

22. (Withdrawn) A package structure to be mounted on an external printed circuit board, said package structure comprising:

a resin package board that is mounted with an exoergic circuit element; and

a socket, provided onto said package board, which electrically connects said package board to the printed circuit board.

23. (Withdrawn) A package structure according to claim 22, further comprising a mechanism that applies pressure to connect said socket to the printed circuit board and prevents the pressure from being applied to the exoergic circuit element.

24. (Withdrawn) A printed circuit board which is mounted with a package structure, wherein said package structure includes:

a package board that is mounted with an exoergic circuit element; and

a heat sink that radiates heat from the exoergic circuit element, wherein first pressure for connecting the heat sink with the package board is separated from second pressure for compressing the package board against the printed circuit board.

25. (Withdrawn) An electronic apparatus that includes a printed circuit board that is mounted with a package structure,

wherein said package structure includes:

a package board that is mounted with an exoergic circuit element; and

a heat sink that radiates heat from the exoergic circuit element, wherein first pressure for connecting the heat sink with the package board is separated from second pressure for compressing the package board against the printed circuit board.

26. (Withdrawn) A fixture component for a package structure comprising:

a stiffener, arranged between a package board mounted with an exoergic circuit element, and a heat sink that radiates heat from the exoergic circuit element;

a first pressure mechanism that compresses one of the heat sink and the stiffener against the other; and

a second pressure mechanism that compresses said stiffener against the printed circuit board onto which the package board is mounted with different pressure from that of the first pressure mechanism.

27. (Withdrawn) The fixture component according to claim 26, wherein the pressure by the first pressure mechanism is smaller than the pressure of the second pressure.

28. (Withdrawn) The fixture component according to claim 26, wherein said stiffener has a perforation, while the heat sink has first and second perforations,

wherein said first pressure mechanism includes a first component fixed onto the stiffener through the first perforation in the heat sink; and

wherein said second pressure mechanism includes a second component fixed onto the printed circuit board through the perforation of the stiffener.

29. (Withdrawn) A fixture component according to claim 26, wherein said stiffener has a first perforation, while the heat sink has first and second perforations,

wherein said first pressure mechanism includes a first component fixed onto the stiffener through the first perforation in the stiffener; and

wherein said second pressure mechanism includes a second component fixed onto the printed circuit board through the perforation of the heat sink.

30. (Withdrawn) The fixture component according to claim 26, wherein said first and second pressure mechanisms include:

two types of elastic members; and

a coupling member that couples the two types of elastic members to each other.